

SAFETY MANAGEMENT SYSTEM

TRANSPORTATION ASSET MANAGEMENT

Safety Management System

As one of six components of the Transportation Management System (TMS), the Safety Management System (SMS), is the decision-support tool responsible for analyzing vehicular crashes and the roads on which they occur. It supports an overall goal of the Michigan Department of Transportation (MDOT) to provide the safest public roadway infrastructure through combined use of people, technology and analysis.

SMS particularly provides for identification, analysis and implementation of engineering improvements at high-crash locations. Annually this allows effective management of millions of federal dollars used in road safety improvement projects.

What is Included in SMS?

SMS includes elements necessary to support the process of ensuring safety-based improvement opportunities are identified, evaluated and implemented. Perhaps more than any other tool, safety management requires direct partnership with our federal, state, county, local and private safety partners; each of whom is responsible for various safety issues. MDOT staff uses SMS as a tool for coordination of the

responsibilities of all partners in safety, particularly related to engineering and planning for the road assets for which the state is responsible. The application also provides data used in long-term corridor improvement planning.

How is SMS Organized?

SMS is part of the TMS computer application. Within this application, safety analyses are organized in packages reflecting the types of projects that may be undertaken to improve safety:

- Road Segment: Road surface and right-of-way
- Intersection: Points where roads meet
- Interchange: Access to limited access roads.

Within each of these packages, users can access data on crashes and roadway features. Authorized SMS users can also summarize data and perform route-based, time-of-return and peer-group analyses. The latter can be done at the asset level, or at an individual element of the asset level.

Who is Responsible for SMS?

Predominate responsibility for SMS resides with MDOT's Traffic & Safety Division (T&S). Staff works with region offices, transportation service centers and our government partners, to:

- Ensure safety concerns are part of planning, design and maintenance
- Coordinate activities of traffic safety agencies
- Enhance vehicle safety design
- Collect, manage and disseminate safety data
- Evaluate effectiveness of safety programs and projects



SAFETY



- Reduce the number and severity of crashes
- Enhance safety first decision-making through engineering, legislation, enforcement and public information.

Who are SMS Customers?

Internally, SMS supports asset management decisions of MDOT bureaus of Highway and Transportation Planning. It also supports efforts of regional and local agencies whose size may preclude access to safety resources. Ultimately, it supports residents and businesses of Michigan by improving the safety of the roadway system most people use every day.

Supporting Data

Data within SMS are among the most important kept by MDOT. Traffic crashes are reported to the Michigan State Police by law enforcement officers. This statewide data is assigned a physical location on the Michigan Accident Location Index, then sent to T&S.

Data supporting SMS and its Crash Reporting Information System are to be updated monthly, with an expected 30-day delay in loading. Keeping the data current is essential to the task of quickly identifying problem areas that require timely attention.

Safety Strategic Plans

Three of the seven goals of MDOT's *State Long-Range Plan* relate directly to the provision of safe transporta-

tion assets. These include assuring mobility, directing investment and creating incentives for government agency cooperation. SMS, by its nature, can be a cornerstone of support for the latter of these.

Performance Standards & Needs

Implementation of the actions required to meet goals and objectives requires performance standards against which safety projects can be measured. Various analyses are used to determine those areas requiring intervention by state or local agencies.

Monitoring & Reporting

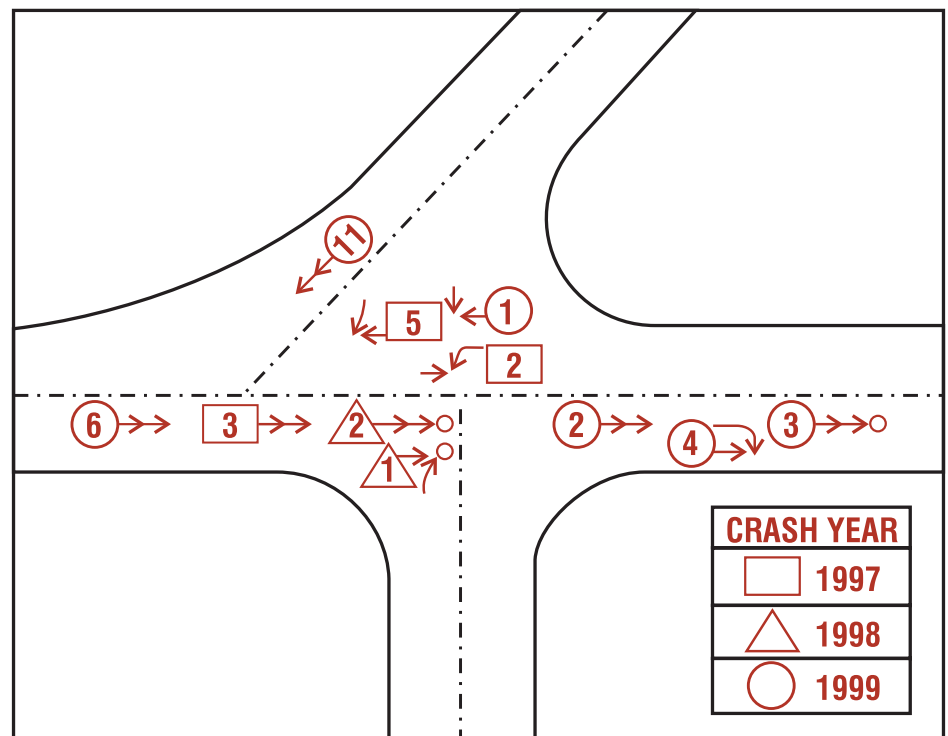
The most visible results of the work done in SMS are the numerous and very effective programs promoting

traffic safety. Done in conjunction with the Michigan Office of Highway Safety Planning and Michigan law enforcement agencies, these include Click It or Ticket, Drive Michigan Safely and Don't Be Road Kill. Each of these is directly or indirectly related to analysis of the cause of crashes available in SMS.

Less advertised results of SMS analysis can be found in implementation of necessary safety-based improvements on our roads and bridges.

The *SMS User Manual* is also a valuable resource. It provides a guide to safety terms and processes, as well as being a how-to guide for those using the application.

An example of a crash diagram.



For Further Information -
please contact MDOT at 517-373-2240 or send e-mail to assetmgt@mdot.state.mi.us